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15ME562

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021 Energy and Environment

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Interpret world Energy scenario with respect to production and consumption using relevant statistics. (10 Marks)
- b. Define Energy and Power. Differentiate the same. (06 Marks)

OR

- 2 a. Outline the factors that affect India's energy development. (10 Marks)
- b. Explain the various key energy trends in India. (06 Marks)

Module-2

- 3 a. Discuss the principles of Energy Management. (08 Marks)
- b. A thermal power plant of 210MW capacity has the maximum load of 160MW. Its annual load factor is 0.6. The coal consumption is 1kg per kwh of energy generated and the cost of coal is Rs. 450.00 per tonne calculate the annual revenue earned if energy is sold at Rs 1 per kwh. (08 Marks)

OR

- 4 a. Define Energy audit. Explain in the detail the various phases of energy audit methodology. (08 Marks)
- b. List the various thermal energy storage methods. Explain sensible heat and latent heat storage methods. (08 Marks)

Module-3

- 5 a. Define Environment. Mention its scope. Discuss the need for public awareness. (08 Marks)
- b. Discuss how the water cycle ecosystem functions. (08 Marks)

OR

- 6 a. Write a short notes on :
i) ecological succession ii) food chain, food web and ecological pyramid. (08 Marks)
- b. Discuss how oxygen cycle is utilized in the ecosystem. (08 Marks)

Module-4

- 7 a. Enumerate the water pollution causes and its effects. Mention the control measures that can be initiated for mitigating the same. (08 Marks)
- b. Discuss any 2 case studies related to pollution of environment in detail. (08 Marks)

OR

- 8 a. Elaborate the causes, effects and control measures of i) Soil pollution ii) Noise pollution
iii) Thermal pollution. (08 Marks)
- b. Discuss solid waste management techniques. (08 Marks)

Module-5

- 9 a. Explain the salient features Air Pollution Act. (10 Marks)
- b. Write a note on ozone layer depletion. (06 Marks)

OR

- 10 a. Enumerate the impact of global warming on our mother nature. (08 Marks)
- b. What are the regulations governing Water Pollution Prevention Act? (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.